



# Year 2000 Certification

Mark Jozwiak  
L-Dir Y2K PD



What is Year 2000 Certification?  
What's the big deal?  
Who's responsible?



# Definition of Y2K Compliance

Year 2000 Compliance means that neither performance nor functionality is affected by dates prior to, during and after the year 2000. In particular:

- a) General Integrity: No value for current date will cause any interruption of operation
- b) Date Integrity: Date-based functionality must behave consistently for dates prior, during, and after the year 2000
- c) Explicit/Implicit Century: In all interfaces and data storage, the century in any date must be specified either explicitly or by unambiguous algorithm or inferencing rules



# What is Certification?



- Assessing, categorizing, analyzing, fixing, and testing **all** our systems to ensure they work for Year 2000, Feb 29 (leapyear) and the GPS rollover. (Reporting through AMC Y2K database)
- Completing the mandatory certification checklist.
- Signing the certification statement.
- DoD & AMC tracks our progress through the 5 Phase resolution process. (Y2K database) Which is:
  - Phase I Awareness (Identifying all your components)
  - Phase II Assessing (identifying HW, SW, FW, COTs problems)
  - Phase III Renovation (fixing, replacing, retiring)
  - Phase IV Validation (Testing fixes)
  - Phase V Implementation (executing compliant operation)
  - Phase VI Funding



# Requirement



Provide signed certification  
achieving Year 2000  
compliance for all ACAT I-IV  
systems.



# Who's Responsible ?

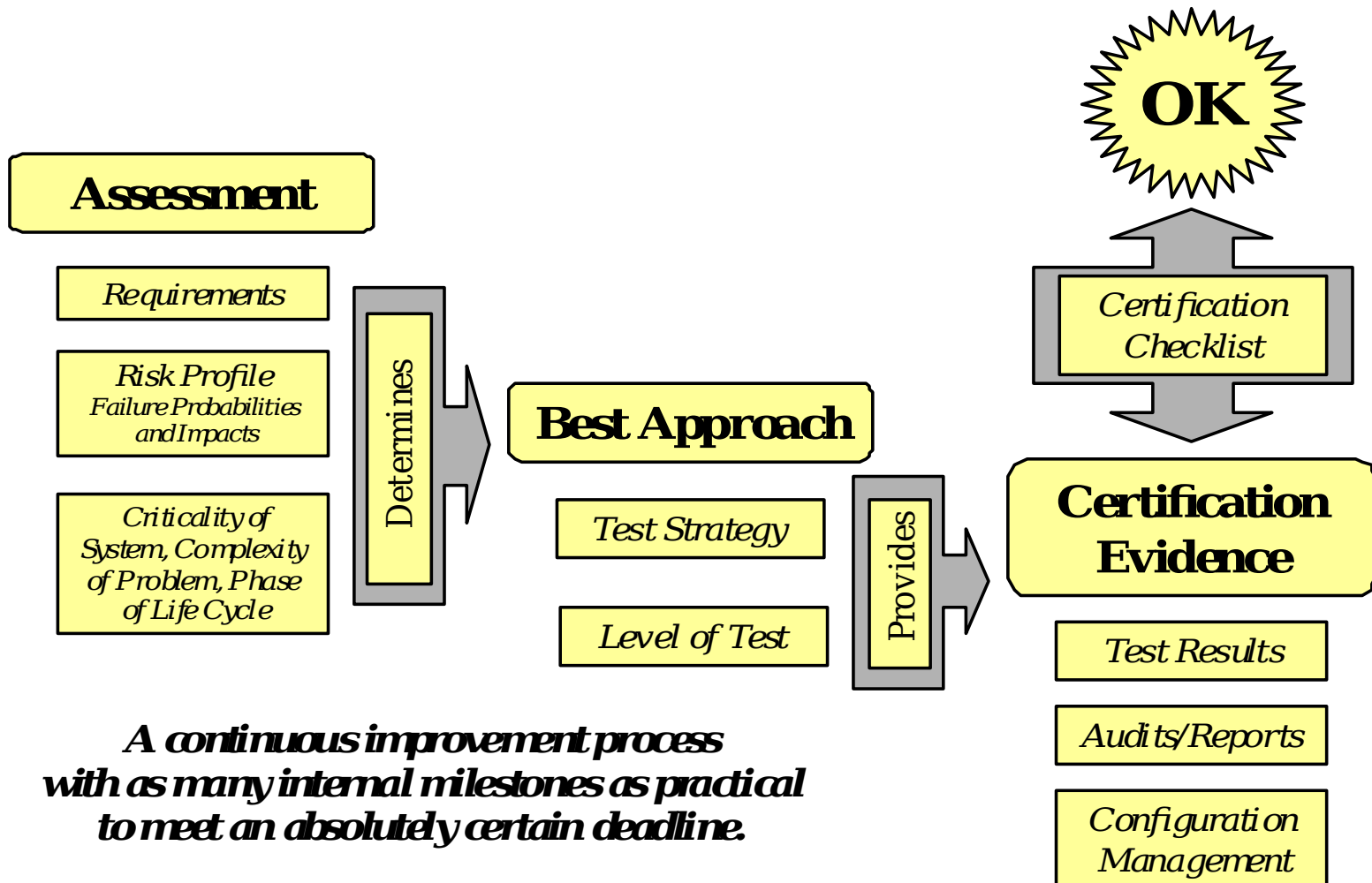


The term “system owner(s)” will be used to identify that person, office, or organization responsible for the management and/or correction of Y2K issues for systems and devices. The term “system owner(s) includes PMs, system managers, item managers, device managers, etc.

“US”



# Certification Process





# WHAT and WHO does what?



- The DoD & AMC Year 2000 Management Plan directs system developers and maintainers, along with the system's functional proponent, to certify and document each system's Y2K compliance.
- Categories are:
  - Mission Critical Systems (CTCs, CCTT, CBS, MAIS)
    - Only General Officers or SESs sign certification
  - Non Mission Critical (One-liners in Y2K database)
    - The Program, Product, or Project Manager is responsible for selecting the appropriate compliance level & certifying it (signing).
- \*\* **CHANGE** \*\* First Level General Officer / SES must sign **ALL** Certification Checklists.





# Mission Critical? -- Who ME!



- The new DA definition of "Mission Critical Systems" is: Includes all systems
  - a. Defined by the Clinger/Cohen Act as National Security Systems (NSS) (Intelligence Activities; Cryptologic Activities related to National Security; Command and Control of military forces, integral to a weapon or weapon system; systems critical to direct fulfillment of military or intelligence missions).
  - b. In direct support of those systems identified by the CINCs which if not functional, would preclude the CINC from conducting missions across the full spectrum of operations including:
    - 1. Nuclear management      2. Readiness (to include personnel critical to readiness)
    - 3. Transportation      4. Sustainment
    - 5. Modernization      6. Surveillance/Reconnaissance
    - 7. Financial      8. Security
    - 9. Safety      10. Health
    - 11. Information Warfare      12. Information Security
  - c. Required to perform Department level and component level core functions
- Many of our systems will now have to be reported in the DA database and some may even be defined as mission critical. I had been successful in staying out of the DA database with most of our system - but we will no longer be able to stay out. This will mean increased reporting requirements.



# Phases & Schedule



- Phase I - Awareness Target Completion 19 Dec 1996
- Phase II - Assessment Target Completion 31 Mar 1997
- Phase III - Renovation (Fix) Target Completion 30 Sep 1998
  - Mission Critical System 30 Jun 1998
- Phase IV - Validation Target Completion Dec 1998
  - Mission Critical System 30 Oct 1998
- Phase V - Implementation Target Start Dec 1999
  - Mission Critical System Dec 1999
- Phase VI (AMCs ) funding 1 Sep 1998



# Levels of Certification

**All non-compliant major and critical systems will undergo system testing and certification.**



- 0 System does not process data
- 1 Full independent testing successfully completed. “Independent” testing is that conducted by an independent Government or Contractor testing organization, such as the Joint Technical Integration Center (JTIC).

All questions have positive responses where applicable(checklist)

- 2 Independent audit of system or device and existing test results successfully completed. An “independent” audit is that conducted by a Government or Contractor organization, outside the system or device’s chain of responsibility:

All questions have positive responses where applicable(checklist)

- 3 Successful self-testing. “Self testing” is accomplished by the system or device, builder, or maintainer (Government or Contractor) in their own facility with no additional review of the system or device or test results.

All questions have positive responses where applicable(checklist)

CAUTION: Self-testing assumes a higher risk level of potential failures

- 4 System not fielded yet — Y2K compliance contract language is in place



# STRICOM Suspense's



- Mar 98 - All Non-Compliant systems completed Assessment Phase.
- Mar 98 - MOAs for cross agency interfaces signed.
- Apr 98 - All Compliant systems completed certification checklist.
- June 98 - Contingency & Risk Assessment plans developed for all Non-compliant systems.
- June 98 - Mission Critical Systems (MSC) Complete Renovation.



# CERTIFICATION PROCESS



## Certification Lesson #2--Test/Verification Evidence

Would you be willing to put your career and integrity on the line and sign the certification checklist without quantifiable evidence that the renovated system and its interfaces comply with mission requirements? If you wouldn't, why would you assume that a General Officer would?

- The certification decision is substantiated with test/verification evidence
- Without evidence, the General Officer or SES may assume unqualified risk or refuse to sign



# Caution Statement



**Year 2000 compliance and validation testing may be done by contractors, however, the “certification” of Army systems can only be granted by U.S. Government personnel.**

**Any USAY2KDB system reported as being in the “Implementation” phase should have a completed Compliance Certification Checklist. A system is not considered to be Y2K compliant until all interfaces properly receive date related data.**

**SHOW-ME !!!!!**



# Y2K Top Level Tasks



- Inventory system components.
  - Hardware
  - COTS
  - Application SW
- Build Y2K database for reporting.
- Identify system components with potential Y2K impacts.
- Assess potential Y2K system components for Y2K compliance.
  - Analyze
  - Test



# Y2K Top Level Tasks cont.



- Prioritize the components into categories:
  - Mission Failure
  - Mission Critical
  - Mission Deficiency
  - Deficiency
- Project cost and schedule.
- Fix (Repair, Replace, Retire)
- Regression Test (Validate)
- Y2K Certification checklist & compliance documentation.
- Implement (Configuration Management)





# Issues



- Original Equipment Manufacture (OEMs) Hardware Compliance and Certification.
- Commercial Software
  - Operating Systems
  - Application Software
- Maintenance Agreements



# CTC Y2K IPT Lessons Learned



- **Certification documentation signed by contractor.**
- **Certification checklist incomplete or missing.**
- **No audit trail with certification documentation.**
- **COTs signed off as compliant.**
- **No traceable or auditable process or procedure.**
- **Tactical / Training organization don't understand & this is NOT their PRIORITY.**
- **Farther along in renovation you go the more complex and intricate problems become.**
- **Requires detailed and dedicated effort.**
- **DA/AMC Process's are still evolving and changing.**



What is Year 2000 Certification?  
What's the big deal ?  
Why should I worry about it ?